



KE2□ Pneumatic Transmitters Pressure & Differential Pressure

OUTLINE

This is a force-balanced pressure transmitter which senses pressure, liquid level, pressure differential, etc. on job site. They are converted into constant pneumatic signals of 20 kPa to 100 kPa (0.2 kgf/cm² to 1 kgf/cm²) and are transmitted from the job site to the receiver in the control room.

FEATURES

- As this pressure transmitter is of pneumatic type, it can be used in an explosive and corrosive environment.
- As this pressure transmitter is of force balanced type, the displacement of the pressure element and linkage mechanism hardly exist, making it rigid construction possible as a whole. Accordingly, precision regarding vibration prevention, linear resistance, hysteresis, etc. can be maintained for a long period of time.
- The element of the pressure sensing portion is built in the transmitter body, making the transmitter extremely small and performing zero adjustment easily from the outside without removing the cover and without any effect on the span.

SPECIFICATION 1

Application:

KE21 Pressure • Vacuum • The compound measurement use
KE22 The differential pressure measurement use
(Standard pressure 1MPa)

Mounting:

Panel mounting, 2B pipe mounting

Pneumatic connection:

G 3/8 B (PF), G 1/2 B (PF)

Pneumatic connection:

R c1/4 (PT female), 6 DIA., 8 DIA., 10 DIA.

Type:

Transmitter ability (standard), With reducing valve unit, With output gauge,
With local indicator (KE21 only)

Wetted parts material:

Bourdon tube 316st.st.
Bellows 316Lst.st.
(Depending on range)

Pressure range:

0 ~ 0.01 → 0 ~ 100MPa (0 ~ 0.1 → 0 ~ 1000kgf/cm²)
-0.1 ~ 0 → -0.1 ~ 2MPa
(76cmHg ~ 0kgf/cm² → 76cmHg ~ 20kgf/cm²)

Operating temperature:

-20 ~ 80°C

Accuracy:

±0.5%F.S., ±0.75%F.S., ±1.0%F.S., ±1.5%F.S.
(Depending on range)

Supply air pressure:

140±10kPa (1.4±0.1kgf/cm²)

Output:

20 ~ 100kPa (0.2 ~ 1kgf/cm²)

Air consumption:

4 ~ 7L/min (normal)

Permission over load:

150%F.S.

Span adjustment:

Internal adjustment

Zero adjustment:

External adjustment

Case material • finishing:

Aluminum die casting • Gray

Construction:

Drip-proof (IP23)

Pressure reducing valve specification:

Max. working pressure 0.97MPa (9.7kgf/cm²)
Withstand pressure 1.5MPa (15kgf/cm²)
Setting range 0.03 ~ 0.25MPa (0.3 ~ 2.5kgf/cm²)

* By one reducing valve, each 15 units of KE21, KE22 can be used.

Weight:

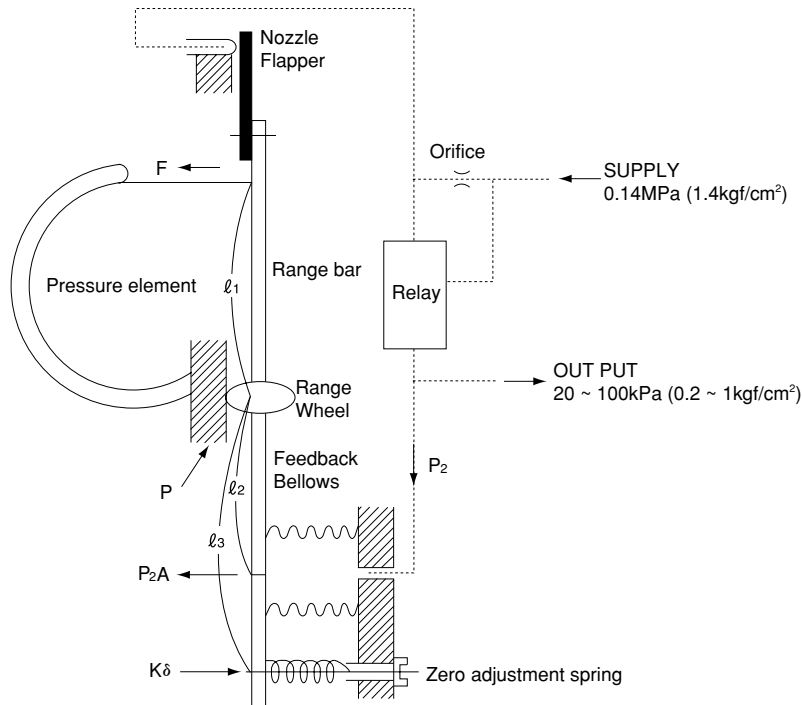
KE21 Approx. 5.5 kg
KE22 Approx. 6 kg
(Option)
Reducing valve unit Approx. 1.4 kg
With output gauge Approx. 0.17 kg
Local indicator Approx. 0.55 kg

SPECIFICATION 2

Accuracy • Wetted parts material:

Type No.	Pressure range MPa (kgf/cm ²)	Accuracy (±%F.S.)	Wetted parts material	Pressure range MPa (kgf/cm ²)	Accuracy (±%F.S.)	Wetted parts material
KE21	0 ~ 0.01 (0 ~ 0.1)	1.0	Bellows 316L st.st.	0 ~ 7 (0 ~ 70) ~ 10 (~ 100) ~ 15 (~ 150) ~ 25 (~ 250) ~ 35 (~ 350) ~ 50 (~ 500) ~ 70 (~ 700) ~ 100 (~ 1000)	0.5	Bourdon tube 316st.st.
	0 ~ 0.02 (0 ~ 0.2) ~ 0.03 (~ 0.3) ~ 0.04 (~ 0.4) ~ 0.05 (~ 0.5) ~ 0.1 (~ 1) ~ 0.2 (~ 2) ~ 0.3 (~ 3)	0.75				
	0 ~ 0.4 (0 ~ 4) ~ 0.6 (~ 6) ~ 1 (~ 10) ~ 1.5 (~ 15) ~ 2 (~ 20) ~ 2.5 (~ 25) ~ 3.5 (~ 35) ~ 5 (~ 50)		Bourdon tube 316st.st.	-0.1 ~ 0 (76cmHg ~ 0) ~ 0.1 (~ 1) ~ 0.2 (~ 2)	0.75	Bellows 316L st.st.
				-0.1 ~ 0.3 (76cmHg ~ 3) ~ 0.4 (~ 4) ~ 0.6 (~ 6) ~ 1 (~ 10) ~ 1.5 (~ 15) ~ 2 (~ 20)	0.5	Bourdon tube 316st.st.
KE22	0 ~ 0.01 (0 ~ 0.1)	1.5	Bellows 316L st.st. (Packing is PTFE)	0 ~ 0.1 (0 ~ 1) ~ 0.2 (~ 2) ~ 0.3 (~ 3) ~ 0.4 (~ 4)	1.0	Bellows 316L st.st. (Packing is PTFE)
	0 ~ 0.02 (0 ~ 0.2) ~ 0.03 (~ 0.3) ~ 0.04 (~ 0.4) ~ 0.05 (~ 0.5)	1.0				

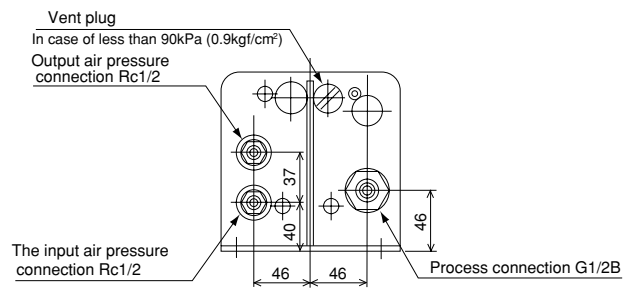
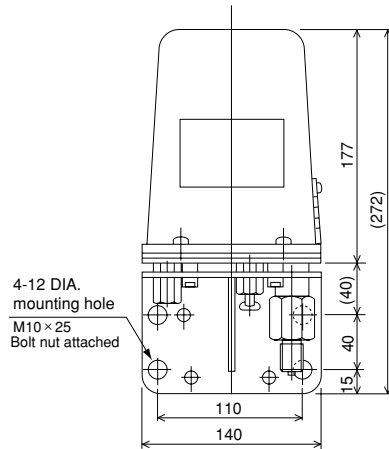
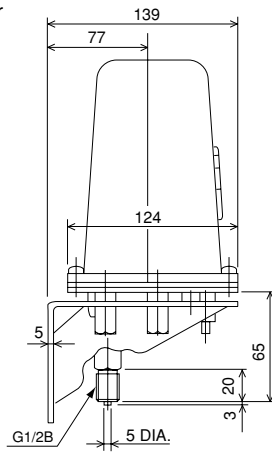
FIGURE OF PRINCIPLE



$$F l_1 \cong P_2 A l_2 - K \delta l_3$$

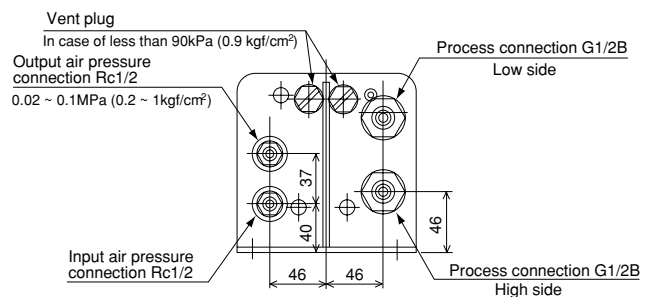
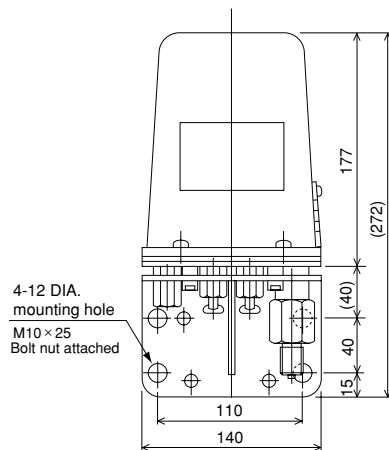
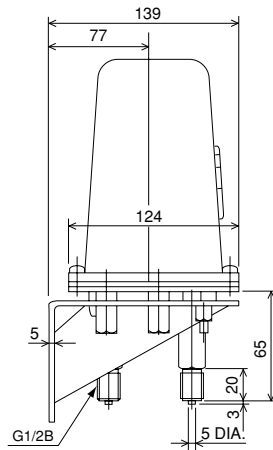
DIMENSIONS 1

Pressure transmitter



— KE21-121 —

Differential pressure transmitter



— KE22-121 —

Type No. constitution

Please specify Type No.,each specification and range when ordering.

Note: For this Model,there is no applicable item for the figures X,but please specify X when ordering.

K	E	2	1	Pneumatic pressure transmitter
K	E	2	2	Pneumatic differential pressure transmitter

Model

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

K E 2

0 0 1

X X X X X X

Selection spec.

Additional spec. (Option)

Type No.

1 Mounting process connection

1	Panel mounting, G1/2B
2	Panel mounting, G3/8B
3	2B pipe mounting, G1/2B
4	2B pipe mounting, G3/8B

2 Connection

2	Rc 1/4
6	6 DIA.
8	8 DIA.
0	10 DIA.

3 Option

1	Standard (transmitter ability)
2	With reducing valve unit
3	With output gauge
4	With local indicator KE21 only (except range less than 0.03MPa)
5	With reducing valve unit & output gauge
6	With output gauge & local indicator KE21 only
7	With reducing valve unit & local indicator KE21 only
8	With reducing valve unit, output gauge & local indicator KE21 only

9 Other additional spec.

0	Nil
1	Please specify your requirement Mounting plate for U Bolt

8 Treatment

0	Nil
1	Use no oil
2	Use no water
3	Use no oil & water

7 Output

1	20 ~ 100kPa
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6 Supply pressure

0	140±10kPa
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5 Accuracy

0	Standard ±0.5%F.S., ±1.0%F.S., ±0.75 % F.S. or ±1.5 % F.S. (Depending on range)
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4 Pressure range (MPa)
(When ordering, please specify pressure range & unit.)

KE21	Pressure Range (MPa)	Accuracy
1	0 ~ 0.01	±1.0%F.S.
	0 ~ 0.02, 0.03, 0.04, 0.05	±0.75%F.S.
2	-0.1 ~ 0, 0.1, 0.2	±0.75%F.S.
	-0.1 ~ 0.3, 0.4, 0.6, 1, 1.5, 2	±0.5%F.S.
3	0 ~ 0.1, 0.2, 0.3	±0.75%F.S.
	0 ~ 0.4, 0.6, 1, 1.5, 2, 2.5, 3.5, 5, 7	±0.5%F.S.
4	0 ~ 10, 15, 25, 35, 50	±0.5%F.S.
5	0 ~ 70, 100	±0.5%F.S.

KE22	Pressure Range (MPa)	Accuracy
1	0 ~ 0.01	±1.5%F.S.
	0 ~ 0.02, 0.03, 0.04, 0.05	±1.0%F.S.
2	0 ~ 0.1, 0.2, 0.3, 0.4	±1.0%F.S.

15 Document

0	Nil
1	Please specify your requirement Drawing one sheet, Instruction manual, Inspection procedure, Mill sheet, Test report